Raritan
A brand of legrand

CASE STUDY

YAHOO! JAPAN

IMPROVED SERVICE INFRASTRUCTURE PERFORMANCE WITH INTELLIGENT PDU

To deliver quality digital services to the more than 55 billion* visitors who come each month to Yahoo! JAPAN's search portal to browse the Internet and access other services, the online information giant has created a responsive and scalable IT infrastructure.

Insight on IT resources -- especially power -- in its data centers was key for delivering optimal online services and supporting the company's growing businesses and various service websites. Yahoo! JAPAN wanted a more accurate way to monitor how much electricity its IT infrastructure was consuming and by what services, and how much power capacity resided in its data centers at any point in time.

Yahoo! JAPAN introduced the Raritan intelligent rack power distribution unit (iPDU) to its data centers to monitor real-time power consumption, so that decisions could be made quickly on where new servers and racks should be added to support expansion. Real-time energy monitoring also helps the company keep an eye on the health of its data centers.

"PROBLEM-SOLVING ENGINE" FOR THE SERVICE DEPARTMENT

Osamu Takizawa -- Yahoo! JAPAN's leader of Datacenter Operation Technology - Infrastructure Technology Group 2, in the System Control/Site Operations Department -- and his coworker, Jun Akiyama, (DC Operation Technology, Infrastructure Technology Group 2, System Control/Site Operations Department, Yahoo! JAPAN) commented on how the Raritan intelligent power product was adopted and the advantages of doing so.

Takizawa, Akiyama and the data centers operations team are responsible for Yahoo! JAPAN's operating infrastructure that supports billions of monthly visitors. The team focuses on delivering online services supporting Yahoo! Japan Corporation's vision to provide users with "problem-solving engines" to help solve various problems -- ranging from daily concerns to major social issues.

Takizawa commented: "First, our service department comes up with new ideas to solve customers' problems. Then, we work towards solving these problems by providing the infrastructure needed to realize these new service ideas." Akiyama also commented, "Our team is focused at finding solutions to support the service department, and, ultimately, the customer."

GOALS

- Need to monitor data center power usage in real time.
- Reduce risk of accidental disconnections of power cables from PDUs in racks.

SOLUTION

- Intelligent PDUs "PX-1000" series

BENEFITS

- Easily accessible information on power consumption and power capacity on all data center racks.
- Intelligent PDU with locking mechanism improved uptime, without needing to make major changes to the IT infrastructure.

Osamu Takizawa (left), the leader of DC Operation Technology, Infrastructure Technology Group 2, System Control/Site Operations Department, and Jun Akiyama (right), DC Operation Technology, Infrastructure Technology Group 2, System Control/Site Operations Department, Yahoo! JAPAN

IMPROVE PERFORMANCE IN OPERATING INFRASTRUCTURE WITH INTELLIGENT PDUs

Yahoo! JAPAN selected the Raritan intelligent rack PDU "PX2-1000" series. To add server capacity efficiently to support a large website, like Yahoo! JAPAN, power consumption needs to be monitored, as well as rack capacity -- in real time.
"Before introducing the Raritan intelligent PDU, if we needed information on power consumption we had to contact a data center each time, which was time consuming," Takizawa said.

The Raritan PX2-1000 intelligent rack PDU monitors and provides real-time information on voltage, current, power factor, apparent power (kVA), active power, and kWh units within the PDU. Along with the intelligent PDUs introduction at the IDC Frontier's Kitakyushu data center in 2011, Yahoo! JAPAN also deployed a monitoring tool that constantly checks power consumption.

ONLY RARITAN PRODUCTS MEET YAHOO! JAPAN'S REQUIREMENTS

Occasionally, the power cables accidentally became disconnected from non-Raritan PDUs in the data centers. "The cables disconnect from the PDU sometimes when workers accidentally come in contact with cables, which were already inadvertently loosened by vibration and exhaust heat in the back of server racks," Akiyama said. The cable issues did not affect customer service because Yahoo! JAPAN's data centers have redundant servers. However, the team had to solve the cable issue in order to provide stability to the service department.

It is easy to solve this problem for 100V power supplies (used in PCs) as they have a twist-locking system to lock the cables by twisting plugs. However, this was not the case for 200V power supplies.

While searching for alternative PDUs to fix the cable issue, Yahoo! JAPAN found a viable alternative with Raritan's intelligent PDUs. "Except for the Raritan products, most of the other products required special proprietary cables. We wanted general-purpose cables," Akiyama said. Cables attached to a server are too long and hard to deal with, as well as block the heat exhaust. As a result, Yahoo! JAPAN decided to use shorter, general cables and safely adjust wires in the server racks. "If we needed to introduce an intelligent PDU that required a proprietary cable, we would have needed to change our existing data center infrastructure drastically," Takizawa said.

> **"They were responsive and delivered what we wanted, when we needed it."**
>
> **Jun Akiyama**, DC Operation Technology, Infrastructure Technology Group 2, System Control/Site Operations Department, Yahoo! JAPAN

After considering various vendors, Yahoo! JAPAN adopted Raritan's products so that they could customize outlets with a locking system that prevents unintentional power disconnects in racks.

HIGHLY RATED FOR THEIR QUICK CUSTOMIZATION CAPABILITIES

Raritan enables customers to design intelligent rack PDUs to best meet their data center needs and power requirements. Customers can select PDU options in a number of categories — such as plug type, input cord length, outlet type and number of outlets, voltage, current, PDU color, and single-phase or three-phase configurations.

Raritan dealt with several customization matters, including Yahoo! JAPAN's requirement of a special cable locking outlet. Akiyama highly valued Raritan's speed for delivering customized products. "They were responsive and delivered what we wanted, when we needed it."

According to Yahoo! JAPAN, Raritan's intelligent PDU is helping to improve work and operations efficiency dramatically. By deploying Raritan's PDU, Yahoo! JAPAN can easily find power capacity to support server adds and changes, and data center operators can focus on operation without worrying about cable disconnection.

While expanding its system, Yahoo! JAPAN introduced Raritan's intelligent PDU at the Shirakawa data center, managed by its group company, IDC Frontier.

Raritan's products will continue to play an active part in Yahoo! JAPAN's data center operations that Takizawa and Akiyama are always looking to improve. In fact, the Shirakawa data center is planning to introduce additional intelligent PDUs.

Visit www.raritan.eu or call +31 (0)10 284 4040 to learn more about our intelligent solutions.

Raritan®
A brand of legrand®